REMARKS

Claims 1-22 were pending in this Application as of the Office action of June 1, 2007. Claims 23 and 24 have been added with this Response, and claim 9 has been cancelled. Claims 1-8 and 10-22 are amended.

In the Specification

The Examiner reminds Applicant that the Abstract should not exceed 150 words. In response, Applicant respectfully amends the Abstract.

Rejections under 35 U.S.C. 112, second paragraph

The Examiner variously rejects claims 1-22 for being indefinite under 35 U.S.C. 112, second paragraph. In response, Applicant respectfully amends the claims.

Rejections under 35 U.S.C. 102(b)

Claims 1-13 and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,924,989 to Polz (Polz hereinafter). Applicant respectfully traverses.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Applicant's amended claim 1 recites *inter alia*,

"wherein said information transformation includes at least one search beam running from each first space element along a pre-determinable multidimensional direction vector, thereby defining those second space elements determined by the multidimensional image information of that first space element which forms a starting point of the search beam."

Polz does not teach information transformation that includes at least one search beam running from each first space element along a pre-determinable multidimensional direction vector defining those second space elements determined by the multidimensional image information of that first space element which forms a starting point of the search beam. Instead, referring particularly to column 6, lines 49-61, column 7, lines 10-25, and Figure 7, Polz teaches an "interpolation" method. This interpolation method taught in Polz search beam using extrapolation method recited in Applicant's claim 1. This extrapolation method "fills" empty spaces of the multidimensional voxel space, which has not been filled throughout the first group of space elements, by extrapolating information from the first group of space elements throughout a search beam. Thus, for at least this reason, Polz does not teach every element of Applicant's claim 1, or claims 2-13 and 21 that depend therefrom.

Applicant's claim 1 further recites *inter alia*,

"wherein a first group of space elements is generated in a multidimensional voxel space from first space elements which contain multidimensional image information and touch or intersect planes or lines of the partial image areas by the one- or two-dimensional image data;

wherein a second group of space elements is generated in the multidimensional voxel space from second space elements by an information transformation from the multidimensional image information of the first group of space elements."

In contradiction to the above claim elements, Polz does not teach pre-defined multi-dimensional voxel space into which one- or two-dimensional information is inserted. Instead, Polz teaches a generation of the multi-dimensional voxel space in a step-by-step manner that sorts two dimensional cross-sections. Because the multidimensional voxel space of Applicant's claims is pre-known, calculations in a computer run much faster than they would if the multidimensional voxel space was not pre-know, but instead generated in the course of performing the method (as taught in

Polz). Thus, for at least this additional reason, Polz does not teach every element of Applicant's claim 1, or claims 2-13 and 21 that depend therefrom.

Referring now to claim 6 on its own, there is recited *inter alia*,

"wherein the spatial and/or chronological distance and a reference number for the plane or line of the partial image area used to determine the multidimensional image information of the nearest first space element, is *stored* as multidimensional image information of each second space element."

Polz does not teach a spatial distance and reference number for a plane or line of a partial image area to be stored as multidimensional image information for each second space element. In fact, Polz teaches nothing to be stored at all. Thus, for at least this additional reason, Polz does not teach every element of Applicant's claim 6.

Referring now to claim 18, there is recited *inter alia*,

"first storage means for storing absolute spatial and/or chronological positions of the individual partial image areas and/or relative spatial and/or chronological positions of the individual partial image areas to each other along with one- or two-dimensional image information of the individual partial image areas for generating one- or two-dimensional image data."

In contradiction to the above claim elements, Polz does not teach pre-defined multi-dimensional voxel space into which one- or two-dimensional information is inserted. Instead, Polz teaches a generation of the multi-dimensional voxel space in a step-by-step manner that sorts two dimensional cross-sections. Because the multidimensional voxel space of Applicant's claims is pre-known, calculations in a computer run much faster than they would if the multidimensional voxel space was not pre-know, but instead generated in the course of performing the method (as taught in

Polz). Thus, for at least this reason, Polz does not teach every element of Applicant's claim 18, or claims 19 and 20 that depend therefrom.

Applicant's claim 18 further recites, *inter alia*, multiple "storage means," including a,

"second storage means for storing a first group of space elements which can be generated in a multidimensional voxel space from first multidimensional image information containing first space elements touching or intersecting planes or lines of partial image areas by the one- or two-dimensional image data."

Polz does not teach storage of space elements containing first space elements touching or intersecting planes or lines of a partial image areas. In fact, Polz teaches nothing to be stored at all. Thus, for at least this additional reason, Polz does not teach every element of Applicant's claim 18, or claims 19 and 20 that depend therefrom.

As such, for at least all of the above reasons, Polz does not teach every element of Applicant's claims 1-13 and 18-21. Accordingly, Applicant respectfully submits that Polz does not anticipate Applicant's claims 1-13 and 18-21.

Rejections under 35 U.S.C. 103(a)

Claims 14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polz in view of United States Patent No. 5,787,889 to Edwards (Edwards hereinafter). Applicant respectfully traverses.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art and that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970);

Amgen v. Chugai Pharmaceuticals Co., 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Claims 14, 16, and 17 depend from claim 1. As such, these claims include all of the limitations of claim 1. Thus, for at least the reasons discussed in the 102 remarks, Polz does not teach every element of Applicant's claims 14, 16, and 17. As Edwards does not remedy the deficiencies of Polz, any proposed combination of Polz and Edwards also does not teach every element of Applicant's claims 14, 16, and 17. Accordingly, Applicant respectfully submits that *prima facie* obviousness does not exist regarding claims 14, 16, and 17 with respect to the proposed combination of Polz and Edwards. Since the proposed combination of Polz and Edwards fails to teach or suggest all of the limitations of claims 14, 16, and 17, clearly, one of ordinary skill at the time of Applicant's invention would not have a motivation to modify or combine the references, or a reasonable likelihood of success in forming the claimed invention by modifying or combining. Thus, here again, *prima facie* obviousness does not exist. *Id.*

Claims 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Polz in view of Edwards, in further view of United States Patent No. 5,159,931 to Pini (Pini hereinafter). Applicant respectfully traverses.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art and that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Claim 15 depends from claim 1. As such, claim 15 includes all of the limitations of claim 1. Thus, for at least the reasons discussed in the 102 remarks, Polz does not teach every element of Applicant's claim 15. As neither Edwards nor Pini remedy the

deficiencies of Polz, any proposed combination of Polz, Edwards, and Pini also does not teach every element of Applicant's claim 15. Accordingly, Applicant respectfully submits that *prima facie* obviousness does not exist regarding claim 15 with respect to the proposed combination of Polz, Edwards, and Pini. Since the proposed combination of Polz, Edwards, and Pini fails to teach or suggest all of the limitations of claim 15, clearly, one of ordinary skill at the time of Applicant's invention would not have a motivation to modify or combine the references, or a reasonable likelihood of success in forming the claimed invention by modifying or combining. Thus, here again, *prima facie* obviousness does not exist. *Id.*

Claims 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Polz in view United States Patent No. 6,674,879 to Weisman (Weisman hereinafter). Applicant respectfully traverses.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art and that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Claim 22 depends from claim 1. As such, claim 22 includes all of the limitations of claim 1. Thus, for at least the reasons discussed in the 102 remarks, Polz does not teach every element of Applicant's claim 22. As Weisman does not remedy the deficiencies of Polz, any proposed combination of Polz and Weisman also does not teach every element of Applicant's claim 22. Accordingly, Applicant respectfully submits that *prima facie* obviousness does not exist regarding claim 22 with respect to the proposed combination of Polz and Weisman. Since the proposed combination of Polz and Weisman fails to teach or suggest all of the limitations of claim 22, clearly, one of ordinary skill at the time of Applicant's invention would not have a motivation to modify

or combine the references, or a reasonable likelihood of success in forming the claimed invention by modifying or combining. Thus, here again, *prima facie* obviousness does not exist. *Id.*

Applicant respectfully notes that Applicant's original claims 6-11 were found to include novel and inventive subject matter with regards to Polz in the International Preliminary Examination Report issued by the International Bureau on November 4, 2004.

Conclusion

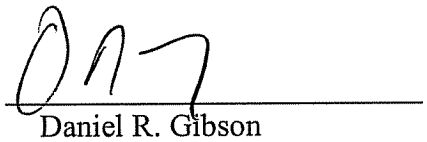
Applicant respectfully submits that the prior art rejections are herein overcome. Applicant respectfully requests withdrawal of all rejections and objections and issuance of a Notice of Allowance.

Applicant hereby petitions under 37 C.F.R. §§1.136, 1.137 for any extension of time necessary for entry and consideration of the present Response.

If there are any charges with respect to this amendment, or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicant's attorneys.

The Examiner is invited to contact Applicant's attorneys at the below telephone number regarding this Response or otherwise concerning the present application.

Respectfully submitted,

By: 

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